UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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ART UNIT	PAPER NUMBER
2183	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 30-32 are pending in this office action and presented for examination.

Claims 30-32 are newly amended and claims 33-34 are newly cancelled by amendment

filed 1/9/2009.

Double Patenting

2.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees.   A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

3.   Claims 30-32 are rejected on the ground of nonstatutory obviousness-type

double patenting as being unpatentable over claim 26 of U.S. Patent No. 5852741.

Although the conflicting claims are not identical, they are not patentably distinct from

each other because claim 26 of the '741 application contains every limitation as claims

30-32 of the instant application.

4.   Claims 30-32 are rejected on the ground of nonstatutory obviousness-type

double patenting as being unpatentable over claim 10 of U.S. Patent No. 5787302.

Although the conflicting claims are not identical, they are not patentably distinct from

each other because claim 10 of the '302 application contains every limitation as claims

30-32 of the instant application.

5.   Claims 30-32 are rejected on the ground of nonstatutory obviousness-type

double patenting as being unpatentable over claim 10 of U.S. Patent No. 5826054.

Although the conflicting claims are not identical, they are not patentably distinct from

each other because claim 10 of the '054 application contains every limitation as claims

30-32 of the instant application.

6.   Claims 30-32 are rejected on the ground of nonstatutory obviousness-type

double patenting as being unpatentable over claim 3 of U.S. Patent No. 5878267.

Although the conflicting claims are not identical, they are not patentably distinct from

each other because claim 3 of the '267 application contains every limitation as claims

30-32 of the instant application.

7.   Two grounds of rejection are given below. The 102 rejection is made using a

broader interpretation of the claimed limitations; the 103 rejection is made using a more

specific interpretation of the claim limitations that is more consistent with the

specification.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

9.   Claims 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by

Eickemeyer et al. (Eickemeyer) (US 5500942).

10.   Consider claim 30, Eickemeyer discloses a first instruction including a first format

field that specifies an instruction compression format; and a second instruction,

following the first instruction, that is compressed according to the first format field in the

first instruction (col. 13, lines 20-22; the first instruction starts with the first byte, the

value in the length field for the first byte indicates where the second instruction starts;

this length is needed because the instructions are of variable length; variable length

instructions are compressed in that they are not fixed length instructions and relatively

smaller instructions in comparison to other instructions do not need any filler bits, and

they are compressed into memory from a standard fixed length implementation. Thus,

a given instruction is compressed into a smaller space but which start can still be

determined using the length field. For example, a first instruction which indicates a next

instruction begins in two bytes, wherein an instruction can be up to six bytes long,

specifies that the next instruction is essentially compressed into memory by four extra

bytes).

11.   Consider claim 31, Eickeneyer discloses the second instruction includes a

compressed operation, the compressed operation being compressed according to the

first format field (col. 13, lines 20-22; the second instruction itself is the compressed

operation, as it has been compressed into the instruction memory but is still

addressable using the first format field which contains where the second instruction

begins).

12.   Consider claim 32, Eickeneyer discloses the second instruction includes a

second format field that specifies a compression of an operation in a third instruction

(col. 13, line 25-38, which discloses of the chain of compressed instructions).

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14.   Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Yajima et al. (Yajima) (US 5632024) in view of Colwell et al. (Colwell) (US 5057837) in

view of Matsuo et al. (Matsuo) (US 4858104).

15.   Colwell is cited in the IDS filed 1/22/2004.

16.   Consider claim 30, Yajima discloses of a second instruction which is compressed

(col. 2, lines 43-47, fetched instruction).

However, Yajima does not disclose of a first instruction including a first format

field that specifics an instruction compression format, and that said second instruction

follows the first instruction and is compressed according to the first format field in the

first instruction.

On the other hand, Colwell discloses an instruction including a first format field

that specifies an instruction compression format; and an instruction that is compressed

according to the first format field in the instruction (col. 2, lines 5-19, a representation of

an instruction word comprises a mask word and each non-zero instruction field; this is

further explained in col. 14, lines 65-68, col. 15, lines 1-19, and col. 15, lines 38-40; an

instruction includes a mask word which specifies how an instruction is compressed).

Colwell's general teaching of VLIW increases performance by executing

instructions in parallel, and Colwell's specific teaching of compressing these VLIW

instructions avoid the necessity of referring back to a slower memory (Colwell, col. 15,

lines 5-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Colwell with the invention of Yajima in order to increase system performance while avoiding the necessity of referring back to a slower memory. Note that the overall combination thus entails an instruction which includes a format field that specifies an instruction compression format which determines how the instruction is compressed.

However, Yajima and Colwell do not disclose that a first instruction includes a first format field that specifies an instruction compression format, and a second instruction, following the first instruction, that is compressed according to the first format field in the first instruction.

On the other hand, Matsuo discloses of the concept of using an earlier instruction to trigger a step for a later instruction, instead of the later instruction itself (col. 4, lines 27-37, information used to execute a branch instruction is gathered and processed from the instruction before the branch instruction and not the branch instruction itself.

Matsuo's teaching allows operations to be performed concurrently instead of occurring in series (Matsuo, col 4, lines 35-37) and increases the rate of throughput of the pipeline (Matsuo, col. 5, lines 45-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Matsuo with the invention of Yajima and Colwell in order to allow operations to be performed concurrently instead of occurring in series and increase the rate of throughput of the pipeline.

17.   Consider claim 31, the combination of Yajima, Colwell, and Matsuo teach that the second instruction includes a compressed operation, the compressed operation being compressed according to the first format field (the compressed instruction as a whole is a compressed operation, or alternatively the nop is itself an operation, or alternatively any sub-instruction is an operation in that it is compressed within the instruction itself).

18.   Consider claim 32, the combination of Yajima, Colwell, and Matsuo teach that the second instruction includes a second format field that specifies a compression of an operation in a third instruction (Neither of the three arts limit the amount of consecutive instructions which use compression or provide information for subsequent instructions).

Response to Arguments

19.   Applicant argues on page 4 regarding the first grounds of rejection that Eickemeyer does not disclose that the first instruction includes any field "that specifies an instruction compression format" and that there is no mention of "compression" anywhere in the cited reference of Eickemeyer et al. However, examiner maintains that Eickemeyer teaches the claimed limitations. Applicant has not specifically addressed examiner's explanation as to how Eickemeyer teaches the claimed limitations, as detailed in the rejection. Additionally, although Eickemeyer may not use the specific term of "compression" in his cited reference, this fact alone does not preclude the cited reference from teaching of the concept of compression in some manner. Therefore, examiner maintains the first grounds of rejection.

20.   Applicant argues on page 5 regarding the second grounds of rejection that Colwell does not teach a first instruction including a format field that specifies an instruction compression format. Applicant explains this argument by noting that the fields of the instruction word correspond to different operations, and thus these fields do not specify an instruction compression format. However, as explained in the previous rejection, examiner has relied upon the mask word which specifies how an instruction is compressed to teach the claimed limitation, and not the fields of the instruction word that correspond to the different operations. As applicant does not argue this facet of the rejection, examiner maintains the second grounds of rejection as well.

Conclusion

21.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

22.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Vicary whose telephone number is (571)270-1314. The examiner can normally be reached on Monday - Thursday, 6:15 a.m. - 5:45 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on 571-272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eddie P Chan/
Supervisory Patent Examiner, Art Unit 2183

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